

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A method comprising:

receiving stay-alive signals from a programming device during ~~the course of a wireless-telemetry~~ programming session between the programming device and an implantable medical device;

resetting a watchdog timer in response to receipt of each of the stay-alive signals; and

changing a mode of operation of the implantable medical device in response to expiration of the watchdog timer.

Claim 2 (Original): The method of claim 1, wherein receiving stay-alive signals comprises detecting transitions on a data line.

Claim 3 (Original): The method of claim 1, wherein receiving stay-alive signals comprises receiving stay-alive signals via wireless telemetry.

Claim 4 (Original): The method of claim 1, wherein receiving stay-alive signals comprises receiving programming signals and stay-alive signals, and resetting a watchdog timer comprises resetting the watchdog timer in response to each of the programming signals and stay-alive signals.

Claim 5 (Withdrawn): The method of claim 1, wherein changing a mode of operation of the implantable medical device comprises directing the implantable medical device to suspend delivery of therapy.

Claim 6 (Withdrawn): The method of claim 1, wherein changing a mode of operation of the implantable medical device comprises directing the implantable medical device to perform a power-on reset.

Claim 7 (Withdrawn): The method of claim 1, wherein changing a mode of operation of the implantable medical device comprises providing a program to the implantable medical device, the program controlling delivery of therapy by the implantable medical device.

Claim 8 (Original): The method of claim 1, wherein changing a mode of operation of the implantable medical device includes causing the implantable medical device to revert to a previously stored program.

Claim 9 (Original): The method of claim 1, wherein changing a mode of operation of the implantable medical device comprises sending a signal to the implantable medical device via wireless telemetry.

Claim 10 (Original): The method of claim 1, further comprising:
receiving a signal from the programming device that indicates initiation of a programming operation; and
initializing the watchdog timer in response to the signal.

Claim 11 (Original): The method of claim 1, further comprising:
receiving power from the programming device;
detecting a failure of power delivery by the programming device;
activating an auxiliary power source in response to the detection; and
changing the mode of operation of the implantable medical device in response to the detection.

Claim 12 (Original): The method of claim 1, further comprising:
receiving an emergency-off signal from a user; and
changing the mode of operation of the implantable medical device in response receipt of the signal.

Claim 13 (Currently Amended): A device comprising:
a telemetry circuit; and
a processor to receive stay-alive signals from a programming device during ~~the course of a wireless-telemetry programming~~ session between the programming device and an implantable medical device, reset a watchdog timer in response to receipt of each of the stay-alive signals, and send a signal to the implantable medical device via the telemetry circuit to change a mode of operation of the implantable medical device in response to expiration of the watchdog timer.

Claim 14 (Original): The device of claim 13, wherein the processor is coupled to a data line of a cable, and the processor receives stay-alive signals by detecting transitions on the data line.

Claim 15 (Withdrawn): The device of claim 13, wherein the signal causes the implantable medical device to suspend delivery of therapy.

Claim 16 (Withdrawn): The device of claim 13, wherein the signal causes the implantable medical device to perform a power-on reset.

Claim 17 (Withdrawn): The device of claim 13, further comprising a memory to store a program that controls delivery of therapy by the implantable medical device, wherein the processor changes the mode of operation of the implantable medical device by providing the program to the implantable medical device via the telemetry circuit.

Claim 18 (Original): The device of claim 13, wherein the signal causes the implantable medical device to revert to a previously stored program.

Claim 19 (Original): The device of claim 13, wherein the processor receives a signal from the programming device that indicates initiation of a programming operation, and initializes the watchdog timer in response to the signal.

Claim 20 (Original): The device of claim 13,

wherein the device receives power from the programming device, the device further comprising an auxiliary power source, and

wherein the processor detects a failure of power delivery by the programming device, activates the auxiliary power source in response to the detection, and sends a signal to the implantable medical device via the telemetry circuit to change the mode of operation of the implantable medical device in response to the detection.

Claim 21 (Original): The device of claim 13, further comprising a user interface, wherein the processor receives an emergency-off signal in response to interaction of a user with the user interface, and sends a signal to the implantable medical device via the telemetry circuit to change the mode of operation of the implantable medical device in response to receipt of the signal.

Claim 22 (Original): The device of claim 13, wherein the programming device is coupled to a programming head by a cable, and the device is located within the programming head.

Claim 23 (Original): The device of claim 13, wherein the programming device is coupled to a programming head by a cable, and device couples the cable to the programming head.

Claim 24 (Currently Amended): An implantable medical device comprising:

a telemetry circuit; and

a watchdog unit to receive stay-alive signals from a programming device via the telemetry circuit during the course of a ~~wireless telemetry~~ programming session between the programming device and the implantable medical device, reset a watchdog timer in response to receipt of each of the stay-alive signals, and change a mode of operation of the implantable medical device in response to expiration of the watchdog timer.

Claim 25 (Original): The implantable medical device of claim 24, wherein the watchdog unit receives stay-alive signals and programming signals via the telemetry circuit, and resets the watchdog timer in response to each of the stay-alive signals and the programming signals.

Claim 26 (Withdrawn): The implantable medical device of claim 24, wherein the watchdog unit suspends delivery of therapy by the implantable medical device in response to expiration of the watchdog timer.

Claim 27 (Withdrawn): The implantable medical device of claim 24, wherein the watchdog unit cause the implantable medical device to perform a power-on reset.

Claim 28 (Original): The implantable medical device of claim 24, further comprising a memory to store a program that controls delivery of therapy by the implantable medical device, wherein the watchdog unit cause the implantable medical device to delivery therapy according to the program in response to expiration of the watchdog timer.

Claim 29 (Original): The implantable medical device of claim 24, wherein the watchdog unit receives a signal from the programming device via the telemetry circuit that indicates initiation of a programming operation, and initializes the watchdog timer in response to the signal.

Claim 30 (Original): The implantable medical device of claim 24, wherein the watchdog unit comprises a processor.

Claim 31 (Original): The implantable medical device of claim 30, wherein the processor comprises a processor that controls operation of the implantable medical device.

Claim 32 (Original): The implantable medical device of claim 24, wherein the implantable medical device comprises an implantable neurostimulator.

Claim 33 (Currently Amended): A computer-readable medium comprising instructions that cause a programmable processor to:

receive stay-alive signals from a programming device during ~~the course of a wireless-telemetry~~ programming session between the programming device and an implantable medical device;

reset a watchdog timer in response to receipt of each of the stay-alive signals; and
change a mode of operation of the implantable medical device in response to expiration of the watchdog timer.

Claim 34 (Original): The computer-readable medium of claim 33, wherein the instructions that cause a programmable processor to receive stay-alive signals comprise instructions that cause a programmable processor to:

receive programming signals and stay-alive signals from the programming device; and
reset the watchdog timer in response to each of the programming signals and stay-alive signals.

Claim 35 (Withdrawn): The computer-readable medium of claim 33, wherein the instructions that cause a programmable processor to change a mode of operation of the implantable medical device comprise instructions that cause a programmable processor to direct the implantable medical device to suspend delivery of therapy.

Claim 36 (Withdrawn): The computer-readable medium of claim 33, wherein the instructions that cause a programmable processor to change a mode of operation of the implantable medical device comprise instructions that cause a programmable processor to direct the implantable medical device to perform a power-on reset.

Claim 37 (Withdrawn): The computer-readable medium of claim 33, wherein the instructions that cause a programmable processor to change a mode of operation of the implantable medical device comprise instructions that cause a programmable processor to provide a program to the implantable medical device, the program controlling delivery of therapy by the implantable medical device.

Claim 38 (Original): The computer-readable medium of claim 33, wherein the instructions that cause a programmable processor to change a mode of operation of the implantable medical device comprise instructions that cause a programmable processor to direct the implantable medical device to revert to a previously stored program.

Claim 39 (Original): The computer-readable medium of claim 33, further comprising instructions that cause a programmable processor to:

- receive a signal from the programming device that indicates initiation of a programming operation; and

- initialize the watchdog timer in response to the signal.

Claim 40 (Original): The computer-readable medium of claim 33, further comprising instructions that cause a programmable processor to:

- detect a failure of power delivery by the programming device;

- activate an auxiliary power source in response to the detection; and

- change the mode of operation of the implantable medical device in response to the detection.

Claim 41 (Original): The computer-readable medium of claim 33, further comprising instructions that cause a programmable processor to:

- receive an emergency-off signal from a user; and

- change the mode of operation of the implantable medical device in response to the signal.

Claims 42-53 (Cancelled).